

PARENTS' MOTIVATION IN REGISTERING THEIR CHILD FOR
GYMNASTICS

Jennie Wald, B.A.

Thesis Prepared for the Degree of
MASTER OF SCIENCE

UNIVERSITY OF NORTH TEXAS

August 1999

APPROVED:

Timothy Bungum, Major Professor

Scott Martin, Committee Member

Chwee Lye Chng, Committee Member and Coordinator of
the program in Health Promotion

James R. Morrow, Jr., Chair of the Department of
Kinesiology, Health Promotion and Recreation

M. Jean Keller, Dean of the College of Education

C. Neal Tate, Dean of the Robert B. Toulouse School of
Graduate Studies

Wald, Jennie, Parents' motivation in registering their child for gymnastics. Master of Science (Health Promotion), August 1999, 70 pp., 10 tables, references, 22 titles.

This study examined factors that motivate parents to involve their children in organized gymnastics programs. A questionnaire based on McCullagh et al.'s (1993) study of recreational soccer players was used along with open-ended questions. The questionnaire was administered to parents of children who were involved in a private gymnastics club. Descriptive statistics of 156 surveys showed that fitness, skill development, and fun were most frequently cited reasons for parents in their decision to enroll and keep their child in gymnastics programs. Competition was the least important factor. ANOVA showed that competition and team membership factors were more important to the parents of competitive gymnasts than parents of recreational gymnasts. Coaches and youth sport program organizers could use these findings to develop and market youth activity programs.

TABLE OF CONTENTS

| | PAGE |
|---|------|
| LIST OF TABLES | iv |
| Chapter | |
| 1. INTRODUCTION | 1 |
| Purpose of Study | 5 |
| Research Questions | 6 |
| Hypotheses | 7 |
| Definition of Terms | 8 |
| Assumptions | 9 |
| Limitations | 9 |
| Justification of the Study | 9 |
| 2. LITERATURE REVIEW | 11 |
| Parental Influences on Children's Physical Activity | 11 |
| Motivation for Physical Activity | 16 |
| Settings for Physical Activity | 17 |
| Registration for Activity Programs | 19 |
| Summary | 21 |
| 3. METHODOLOGY | 22 |
| Sample and Setting | 22 |
| Protection of Human Subjects | 23 |
| Instrument | 23 |
| Data Collection | 24 |
| Data Reduction | 25 |
| Data Analysis | 26 |
| Summary | 26 |

| | |
|----------------------------------|----|
| 4. RESULTS | 28 |
| Descriptive Statistics | 28 |
| Children | 32 |
| Parents | 33 |
| Motivating Factors | 34 |
| Perception of Risks | 40 |
| Activity Participation | 41 |
| Group Differences | 43 |
| Age of Parent | 43 |
| Age of Child | 44 |
| Type of Gymnastics Participation | 47 |
| 5. DISCUSSION | 50 |
| Implications | 55 |
| Future Research | 56 |
| Conclusion | 57 |
| APPENDIX A | 58 |
| APPENDIX B | 60 |
| APPENDIX C | 63 |
| REFERENCES | 68 |

LIST OF TABLES

| TABLE | PAGE |
|--|------|
| Table 1: Population Characteristics | 28 |
| Table 2: Population Summary | 29 |
| Table 3: Activity Participation | 31 |
| Table 4: Means and Rank of Motivational Factors Associated with Supporting a Child's Participation in Organized Gymnastics | 34 |
| Table 5: Means and Rank of Motivational Factor Categories Associated with Supporting a Child's Participation in Organized Gymnastics | 37 |
| Table 6: Means and Rank for Risks Associated with Organized Gymnastics Participation | 41 |
| Table 7: ANOVA Results for Comparison of Motivational Factor Categories for "Younger" and "Older" Parents | 43 |
| Table 8: ANOVA Results for Comparison of All Motivational Factor Categories for Parents of Early Childhood, Middle Childhood, and Adolescent Gymnasts | 45 |
| Table 9: ANOVA Results for Comparison of Significant Motivational Factor Categories for Parents of Early Childhood, Middle Childhood, and Adolescent Gymnasts | 47 |

| TABLE | PAGE |
|---|------|
| Table 10: ANOVA Results for Comparison of Motivational Factor Categories for Parents of Recreational and Competitive Gymnasts | 48 |

CHAPTER 1

INTRODUCTION

Physical activity is one of many behavior patterns formed during childhood and adolescence that have significant impact on lifetime health outcomes (Stucky-Ropp & DiLorenzo, 1993). Parents can impact their child's activity patterns, especially during early childhood (Stucky-Ropp & DiLorenzo, 1993). Several family influences appear to be important determinants of the early acquisition of childhood exercise (Stucky-Ropp & DiLorenzo, 1993), and the role of parents may be the most significant (Dempsey, Kimiecik, & Horn, 1993). Research has shown that parental attitudes towards physical activity, parent modeling of physical activity, and family socialization into sport have been responsible for the encouragement of children to engage in physical activity and sports (Atsalakis & Sleaf, 1996; Brustad, 1993; Hovell, Kolody, & Sallis, 1996; Mota & Quireos, 1996; Stucky-Ropp & DiLorenzo, 1993). Hovell et al. (1996) reported that parental support, in the form of transporting the children to places where they could be active, was significantly correlated with adiposity in boys and girls. Similarly, Anderssen and Wold (1992) hypothesized that there is a trend in which involvement in physical activity requires the ability to organize such activities. For example, it is necessary to be able to organize transportation to training sessions, thus requiring help from parents (Anderssen & Wold, 1992). Seventh graders were asked about their parents' direct help

in exercising by assessing the frequency that parents helped in organizing exercise sessions. Direct help in exercising was shown to have a significant association for boys and girls in their physical activity level. Children who had more help from their parents were those who had a higher level of physical activity. These findings support the belief that through behavior and encouragement, significant others influence participation in adolescents' leisure-time physical activity (Anderssen & Wold, 1992).

Knowledge about the determinants of youth physical activity is limited (Troost et al., 1997). Environmental and social factors are influential to physical activity behavior, and need to be addressed as a target for health promotion research (Anderssen & Wold, 1992). Environmental determinants may include perceived physical activity habits of parents and peers, like or dislike of physical education, access to sporting and fitness equipment at home, participation in school sports, participation in community sports and involvement in community physical activity organizations (Troost et al., 1997). Social support has also been shown to be an important factor related to maintaining sports participation (Anderssen & Wold, 1992).

Today, youth acquire the majority of their physical activity in organized programs outside of school, most frequently in sports teams, parks and recreation departments, private organizations, and religious organizations (Pate, Long, & Heath, 1994; Sallis, 1994). These types of activities offer flexible scheduling, choice of activity, and opportunities for activities often not available in schools (Atsalakis & Sleaf, 1996). Sallis (1994) reported that one-third of youth participated in these types of activities. What prompts children to become active in these groups has been investigated in a

variety of ways, with most emphasis on psychological variables. Motives for participation have been grouped into these categories: skill development or skill/mastery, affiliation, team factors, ego/competitiveness, excitement/challenge, success/status or recognition, fitness, and release of energy (McCullagh, Matzkanin, Shaw, & Maldonado, 1993). These categories have been cited by children and adolescents as reasons for their own participation, and by parents as reasons they believed their children participated in sports or exercise activities (McCullagh et al., 1993).

The goals of a participant may greatly influence the factors that motivate him or her to be involved in an activity program. With respect to parents, the goals for their child's participation may alter their perceptions of the reasons they support their child's activity and the benefits they see from participation. McCullagh and colleagues (1993) specifically studied recreational soccer players, and Weiss and Hayashi (1995) interviewed only families involved in competitive youth gymnastics. However, past research has not investigated the difference in motivators between parents of competitive and non-competitive groups in the same setting. The comparison of the two groups may provide further insight into parents' rationale for enrolling their child in activity programs.

McCullagh et al. (1993) stated that there is a need for more research to understand participation in youth sports. What children do outside of school for physical activity is ultimately determined by the parents, this is especially true for younger children and for activities requiring more help for involvement. Parents determine if the child owns a bike or other play equipment. Parents also decide if the child is allowed to go to the park

or other recreation areas, and when they are able to supervise, if this is needed. Parents also are responsible for enrolling their child to participate in organized activities. Parents exert an important influence on this participation in organized recreation by registering their child, paying the participation fees, and providing transportation. It is logical to assume that registration of children in organized community activity is a product of parental decisions (Atsalakis & Sleaf, 1996). However, the majority of research investigating the relationship between parents' and children's physical activity has centered around how parents' actual behavior or attitudes towards fitness and sports influences children's attitudes and behavior.

Another variable that may influence motivational factors is age. Both the ages of a child and of his or her parents may impact the motivation for the child's participation in physical activity programs. This is a subject that has yet to be addressed in the research literature. Although age has been related to physical activity levels, the effect of parent or child age on motivation factors has not been reported.

Atsalakis and Sleaf (1996) studied mothers' intentions to enroll their child in a physical activity program, and found that intention made a significant contribution to the prediction of behavior. Parents who had more positive attitudes towards registering their child and who perceived it to be an easy action were more likely to plan to enroll their child and then to do so. Dempsey and colleagues (1993) examined how parents' beliefs about their children's activity influenced children's activity participation. Based on an expectancy-value model approach, it is possible that the parents' belief system about their children is the primary factor of parental influence (Dempsey et al., 1993). Therefore,

children's physical activity can be influenced by the parents' beliefs about the value of exercise for their children (Dempsey et al., 1993). Parents display their value towards exercise by providing children with opportunities for participation (Dempsey et al., 1993). Dempsey and colleagues (1993) stated that it is still unknown what factors are most important to parents in their decision to have their children involved in physical activity programs. Also, results are unclear about parents' perceived benefits from their child's participation in sports (Weiss & Hayashi, 1995). This study attempted to determine why parents are willing to let their child participate in community physical activity programs and what they perceive as benefits from the program.

Purpose of Study

Many children are involved in community sports and recreation activities, such as gymnastics, dance, and soccer. Parents are primarily responsible for this activity by enrolling their children, paying tuition, and arranging transportation. The purpose of this study was to determine the motivating factors of parents who sign their child(ren) up for community gymnastics programs. Exploratory research was done to investigate the association of parent and child age on motivational factors. Exploratory research seeks to describe differences in motivation among parents of competitive athletes versus parents of recreational athletes in the same sport activity.

Research Questions

1. What is parents' rationale for enrolling their child in a private gymnastics program?

a) Are these answers different for parents of competitive gymnasts versus recreational gymnasts?

b) Are parents' responses different with respect to their child's age group?

The age groups used in this study will be early childhood (2-5 years), middle childhood (6-11 years), and adolescence (12 years and older).

c) Are the answers different for young parents versus older parents?

Parents will be divided into two age groups based on their age at the time the gymnast was born. Those who were 34 and younger will be “younger parents”, and those who were 35 and older will be “older parents”.

2. What benefits do parents expect from their child's participation in this activity?

a) Do responses differ for parents of competitive team members versus recreational gymnasts?

b) Are parents' responses different with respect to their child's age group?

c) Are the answers different for young parents versus older parents?

3. To what extent are parents interested in improving their child's fitness through gymnastics activity?

4. To what extent do parents perceive health risks from their child's participation in gymnastics?

5. Who participates in organized gymnastics programs?

- a) Are there any patterns in the age of the gymnast, age of his/her parents, level of parents' education, or gender of the gymnast?
- b) What proportion of children are involved in each of the different skill level programs offered at the gymnastics facility?
- c) What is the average and range of the amount of time children have participated in gymnastics?
- d) Are children who are involved in gymnastics typically involved in other organized activities as well?
- e) What proportion of parents earned an athletic letter or other athletic achievement in high school?

Hypotheses

The following hypotheses will be investigated:

1. Parents are motivated to enroll their child in gymnastics programs by the fitness benefits from gymnastics participation, and expect these benefits as a result of their child's participation.
2. Motivators will differ for parents of children of different age groups and competitive intentions.
3. Motivators will differ for parents of different age groups.

Definition of Terms

The following terms are defined in relation to this study:

1. Adolescent: A child 12-18 years of age.
2. Early childhood: A child 2-5 years of age.
3. Competitive gymnast: A gymnast who is a member of the club's competitive team or whose participation includes specific preparation for competition in the future.
4. Gymnastics program: A program that occurs at least once weekly, in the setting of a private gymnastics club with the primary focus on gymnastics activities such as tumbling, apparatus, or gymnastics related motor skills.
5. Infant: A child 0-2 years old.
6. Middle childhood: A child 6-11 years old.
7. Motivator/Motivating factor: Any component seen by a parent as a reason for their action in enabling their child to participate in gymnastics.
8. Older parent: A parent who was 35 years or older when the child in the gymnastics program was born.
9. Recreational gymnast: Any gymnast who participates in weekly classes, generally 45-90 minutes, with the intention to learn skills, but not to prepare for competition.
10. Younger parent: A parent who was 34 years or younger when the child in the gymnastics program was born.

Assumptions

It was assumed that:

1. Participants will answer survey truthfully.
2. The parents of enrollees at the selected gymnastics center are typical of those at other gymnastics schools in the area.

Limitations

The study was limited in the following ways:

1. Participants in this study were those parents of children attending gymnastics classes or practice at a specific private gymnastics club, therefore, the generalizability of the results will be limited.
2. The participants selected were from one geographical location that may contribute to attitudes towards sports participation, again, limiting generalizability of the results.

Justification of the Study

Much research has been done examining parents' influence on children's physical activity in respect to their attitudes towards and modeling of active behavior. Other psychosocial determinants of activity have been investigated, but little research has been done to understand parents' rationale for their child's participation in private physical activity programs. This is an important area of research for health since physical activity habits are formed early in life and because parents are primary agents in teaching these

behaviors. This study will look for the reasons parents register their child for gymnastics programs and what benefits they expect or desire from their child's participation in the activity.

CHAPTER 2

LITERATURE REVIEW

The review of literature will examine previous research that has been done to describe children's involvement in physical activity. Particular attention will be paid to parents' involvement in the process of helping children participate in physical activity programs. The primary focus of the research will be to assess parents motivation for having their children involved in physical activities, however, this is a topic that has yet to be thoroughly addressed in the literature. For this reason, related topics will be examined, such as determinants of and factors related to children's activity, children's motivation for their own activity, and the registration process required for participation in organized activities.

Parental Influences on Children's Physical Activity

It is undeniable that parents exert a strong influence on their children's physical activity behaviors. Several studies have been done to examine the nature and magnitude of parental influence on children's activity. It has been shown that parental attitudes towards physical activity, parent modeling of physical activity, and family socialization into sport have been responsible for the encouragement of children to engage in sports and activity (Atsalakis & Sleaf, 1996; Brustad, 1993; Brustad, 1996; Freedson &

Evenson, 1991; Hovell et al., 1996; Mota & Quieros, 1996; Stucky-Ropp & DiLorenzo, 1993). Mota and Quieros (1996) also stated that the parents seem to be one of the most important socializing agents, influencing participation in physical activities. Atsalakis and Sleaf (1996) stated that parents play a direct role in activity participation of their children. Some of the ways parents facilitate this participation are through financial support, transportation, and registration (Atsalakis & Sleaf, 1996).

Anderssen and Wold (1992) studied the influences from parents on adolescents' leisure-time physical activity. A sample of 904 seventh graders reported on their perceived leisure-time activities of significant others, perceived direct support for physical activity from significant others, direct help from parents in exercising vigorously, and perceived value of physical activity to significant others, as well as their physical activity habits (Anderssen & Wold, 1992). Support for fitness-related exercise was measured by the frequency of encouragement to participate in these activities by mother, father, and friends (Anderssen & Wold, 1992). The measure of direct help from parents was assessed by questions about the frequency of help from parents in organizing exercise sessions (Anderssen & Wold, 1992). Anderssen and Wold (1992) reported that the strongest associations for boys' physical activity were direct help and support from parents in exercising vigorously. For girls, direct help in exercising vigorously was also associated to physical activity (Anderssen & Wold, 1992). The relationship between direct help from parents and physical activity was stronger than any other single item (Anderssen & Wold, 1992). These findings show that parents are important role models

and sources of reinforcement of physical activity in young adolescents (Anderssen & Wold, 1992).

Stucky-Ropp and DiLorenzo (1993) interviewed 242 grade school children and their mothers to study the determinants of exercise in children. They noted that parents play important roles in children's activity patterns by modeling appropriate behavior, imposing opportunities and barriers, and as the major source of reinforcement (Stucky-Ropp & DiLorenzo, 1993). This study determined that the mothers' perceptions of barriers to exercise and their report of family social support predicted of physical activity for boys and girls (Stucky-Ropp & DiLorenzo, 1993). For the girls in this study, physical activity was highly influenced by the amount of exercise-related equipment in the home and parental modeling of exercise (Stucky-Ropp & DiLorenzo, 1993). These results suggest that children are influenced by important socialized family variables (Stucky-Ropp & DiLorenzo, 1993).

Brustad (1993) stated that previous research has indicated that parents have the key socialization role in children's initial sport involvement. He developed and tested a model that linked parental physical activity orientations, such as enjoyment, fitness, and importance, parental socialization practices, and children's self-perceptions to children's attraction to physical activity. Although it was expected that parents with more favorable physical activity orientations would provide greater encouragement, Brustad (1993) did not find a relationship between the importance parents place on physical activity and their encouragement of children's physical activity. It was reported that with more parental encouragement, children had a greater perceived competence for physical activity, and

this variable was extremely important in explaining the differences in children's attraction to physical activity (Brustad, 1993).

Often parents' level of physical activity is cited as a major determinant of children's behavior. However, it is possible that children's activity is also influenced by their parents' beliefs about the value of exercise, success expectancies and goals, and perceptions of their children's physical ability (Dempsey, Kimiecik, & Horn, 1993). The expectancy-value approach suggests that the parents' belief system is the primary carrier of parental influence (Dempsey et al., 1993). One of the ways parents display this value is by providing their children with opportunities for participation (Dempsey et al., 1993). To examine parental influence on children's physical activity participation under the expectancy-value perspective, Dempsey et al. (1993) administered a questionnaire to fourth and fifth grade children and their parents. Parents' value of physical activity for themselves and their children was assessed, as well as parents' expectations for their children's physical activity. Both children and parents' physical activity behavior was measured using a leisure time exercise questionnaire. Dempsey et al. (1993) found that children's activity behavior was significantly related to their parents' belief system. Parents' perceptions of their child's physical competence had a significant influence on children's physical activity (Dempsey et al., 1993).

Hovell et al. (1995) studied the relationship between parent support for physical activity and their children's level of adiposity. The parents were surveyed on their level of physical activity and their support of their children's physical activity. Support of activity was measured by the frequency parents encouraged their child to engage in

physical activities or to play sports, how often they played a sport or engaged in physical activity with their child, and how many times they transported their child to a place where they could engage in physical activity or play sports in the last week (Hovell et al., 1995). Hovell et al. (1995) found direct associations between the physical activity of male children and parent education, parent physical activity, and frequency parents “played with” children. Significant predictors of adiposity in the girls were being “played with” and “transported”, with transportation having the strongest correlation, such that leaner girls tended to have parents who transported them to places where they could be active (Hovell et al., 1995). This study showed that parent support for activity was correlated with adiposity in girls, but physical activity of the parent was not (Hovell et al., 1995).

The conclusion of much research is that parents exert a very strong influence on their children's physical activity, especially before adolescence. Parent modeling of physical activity is one way parents exert this influence. Freedson and Evenson (1991) showed that active parents are likely to have an active child, and that inactive parents are even more likely to have inactive children. Social support and direct help from parents for activity is also an important variable in children's activity. Anderssen and Wold (1992) found that children reported direct help from their parents in exercising and their perception of receiving support from their parents influenced their activity level. It has also been shown that parents' beliefs about physical activity are related to the activity habits of their children. Dempsey et al. (1993) reported that parents' perceptions about their children's abilities were related to the child's physical activity participation. Parental influence is especially important in a child's early activity participation. Brustad (1993)

noted that parents assume the key socialization role in children's initial sports involvement. These are the important areas in which parents can influence children's activity. From these components, parents make decisions about what kind of activity and what type of setting in which they will assist their child's participation.

Motivation for Physical Activity

The majority of motivation research has involved those actually participating in the activity. Very little has been done to explain parents' motivation for enrolling their children in activity programs. Passer (1982) reported that participation motives for children and adolescents could be grouped into six major categories: 1) Affiliation, 2) Skill development, 3) Excitement, 4) Success and status, 5) Fitness, and 6) Energy release. Passer (1982) suggested that affiliation could be divided into both team and friendship factors. In later research, this separation has been used as two distinct categories in which affiliation involves participation to be with friends or make new friends, and team factors include coaches, uniforms, equipment, awards, and being on a team (McCullagh, Matzkanin, Shaw, and Maldonado, 1993). McCullagh et al. (1993) assessed youth participation motives and parents' perceptions of motives of 81 children aged 7-14 who were participating in a recreational soccer league. They found that when parents were asked why they thought their children participated, they chose motives similar to those chosen by their children (McCullagh et al., 1993). Motives in this study were classified into seven categories: skill/mastery, ego/competitiveness, fitness, team factors, fun/excitement, recognition, and affiliation (McCullagh et al., 1993). It was also

reported that the fitness factor was ranked by the children as a very important factor (McCullagh et al., 1993). When motives were assessed for their importance, the ranking pattern indicated that fitness, skill mastery, affiliation, and fun were very important factors in participation for both children and their parents (McCullagh et al., 1993).

In a study comparing the reasons for motivation in American and Australian adolescents, Watkin and Youngen (1986) also used Passer's motivation categories. The factor "improving/developing physical skills" was a high priority motive for participation in physical activity across the whole group of subjects (Watkin & Youngen, 1986). They noted a sex difference in that high-ranking variables for females were associated with the need for development of skills, fitness and health, and appearance, and for males the high-ranking variables were related more to the need for success and status, and excitement (Watkin & Youngen, 1986). In comparison to Passer's (1982) study, three categories were retained: success and status, excitement, and affiliation and the current study combined the categories of fitness and skill development into one of personal development, and redefined energy release to a broader category of diversion (Watkin & Youngen, 1986)

Settings for Physical Activity

There are several possible settings where children may participate in physical activity. The school is the primary setting for many children, due to physical education class, recess time, and school-sponsored sports. However, it has been reported that children engage in the majority of their physical activity outside of school (Pate, Long, &

Heath, 1994). Pate et al. (1994) found that the major sites for activity included parks, community centers, churches, local team sports, and private clubs or organizations. Data from the National Children and Youth Fitness Survey, Phase I showed that nearly 50% of this population of children used one or more community organizations as sources of activity (Pate et al., 1994). These types of facilities are often used because they offer flexible scheduling, choice of activity, and some activities that are not available through school (Atsalakis & Sleaf, 1996).

Socioeconomic status also has a role in the activity settings parents choose for their children. It influences both structured physical activity, such as organized youth physical activity and community recreation programs, and unstructured activity in neighborhoods, parks, and playgrounds (Brustad, 1996). The ability to use programs or activity areas is dependent on family and community economic resources (Brustad, 1996). These private sport and activity programs cost money not all parents are able to spend to give their child the opportunity to participate in these settings.

According to Trost et al. (1997), knowledge about the determinants of youth physical activity is limited. Age and gender have been shown to be strong predictors of activity, but little is known about psychosocial and environmental determinants (Trost et al., 1997). Parental support, enjoyment of physical activity, access to equipment and facilities, and time spent outdoors have been identified as factors related to physical activity behavior. Trost et al. (1997) followed a cohort of 202 rural, predominately African-American fifth graders. Social-cognitive determinants of activity and participation in moderate and vigorous physical activity (MVPA) were assessed with a

questionnaire in the fifth grade and again one year later. Significant correlates of MVPA for boys found in this study were self-efficacy, beliefs regarding physical activity outcomes, social influences regarding physical activity, and community sports teams (Trost et al., 1997). For the girls, self-efficacy, community sports teams, race/ethnicity, and enjoyment of school physical education were correlated to MVPA (Trost et al., 1997). Participation in community sports was found to be the most important predictor of moderate and vigorous physical activity for girls (Trost et al., 1997).

Registration for Activity Programs

Very little research has been done to determine exactly what drives parents to enroll their children in physical activity or exercise programs. Atsalakis and Sleaf (1996) were interested in whether the theory of planned behavior was useful in predicting and explaining the registration of children into organized activity programs. Registration of their child in a program is the most obvious way parents are responsible for their child's physical activity. Atsalakis and Sleaf (1996) stated that when parents register their child for an activity, they logically assess the required investment of their time, money, and effort. In this way, registration of children in activity programs is a product of parental decisions and behavior (Atsalakis & Sleaf, 1996). For this study, a voluntary, out-of-school, organized physical activity program was created for first grade children. Mothers of 400 children were given a letter with the information about the program and were asked to fill out a questionnaire about their interest in such a program. Atsalakis and Sleaf (1996) then looked for a relationship of the attitudes displayed and the intention of

registration, and this intention with actual registration of a child in this activity program. The theory of planned behavior proposes that attitudes, subjective norms, and perceived behavioral control would all be significant predictors of intention (Atsalakis & Sleaf, 1996). Sixty-six of the children registered for the program, representing 16.7% of the children whose mothers were approached (Atsalakis & Sleaf, 1996). Attitudes, subjective norms, and perceived behavioral control all did significantly contribute to the prediction of intention, therefore, indicating that intention could be predicted from the variables of the theory of planned behavior (Atsalakis & Sleaf, 1996). Intention made a significant contribution to the prediction of behavior; the higher the intention, the more likely it was for children to be registered into the program (Atsalakis & Sleaf, 1996). While this study doesn't really explain why parents register their child, it gives information about what kind of parents register their child for activity programs. Parents who had more positive attitudes towards registering their children in the program, who perceived greater social pressure for doing so, and who perceived this as a relatively easy action were more likely to plan to or actually enroll their children in the program (Atsalakis & Sleaf, 1996).

It is possible that parents get their children involved in activities based on their beliefs about the activity or their child. Eccles has developed a theory based on the idea that parental belief systems are the most instrumental in the process of socialization in to sport (Brustad, 1996). This theory states that the amount of support parents provide for children's involvement in activity is based on a combination of their expectations of the likelihood that their child will attain success in a particular area and their views about the

value of success in that domain (Brustad, 1996). Therefore, parents may provide opportunities, such as registering children for activity programs, in accordance with their beliefs about their children's natural disposition and capacities (Brustad, 1996).

Summary

Several studies have shown that there is a strong influence by parents on their children's level of physical activity. This influence may range from subtle, such as the children noticing that their parent is active, to moderate in that a child feels his or her parent is supportive of or has a positive attitude towards activity, or to a strong influence such as direct help in participating or organizing activity. Researchers have grouped motivation factors into six or seven major categories. However, these factors have only been studied with regards to the children's motivation.

Research has reported that children get most of their physical activity outside of the school setting. Also, the existence of and participation in community sports teams has been shown to be a predictor of physical activity. Little research has been done regarding the cognitive process parents go through to get children involved in activity programs. Parents' beliefs about their child's ability, as well as attitudes towards the registration seem to play a role in this action.

CHAPTER 3

METHODOLOGY

Sample and Setting

The target population for this study was parents whose children participate in gymnastics classes. The majority of the participants in these classes were young girls. Parents of boys were not excluded from the study. The gymnastics classes were held at a private club located in a metropolitan area in the southwestern United States. The club had approximately 450 registered participants in recreational gymnastics classes, competitive team squad or preparation squads, cheerleading tumbling classes, and preschool gymnastics classes.

All parents or guardians who came inside the gym to deliver or retrieve their child from the gymnastics programs were approached and asked to fill out a questionnaire. If both parents came into the gym, they were asked to have the one who is most involved with their child's gymnastics participation complete the survey. In order to reach more subjects, surveys were also sent home with children. A letter of introduction and consent accompanied the questionnaire. In this letter, it was asked that the most involved parent complete the questionnaire. Only one survey per household was completed. Approximately 250 questionnaires were distributed, and 156 (62.4%) questionnaires were retrieved.

Protection of Human Subjects

Approval to conduct this study was obtained from the University of North Texas Institutional Review Board. A letter from the club owner acknowledging his consent to distribute a voluntary survey in the club was also obtained (Appendix A). No known risks were identified for participants in this study. Participants signed an informed consent signifying their willingness to participate in this study (Appendix B). Each parent who completed a questionnaire was assured that the information collected would be kept strictly confidential. Parents' names were not included on the survey, and the surveys were numerically coded for data base entry. Findings were reported without individual identification. Questionnaires remained under the control of the investigator and were destroyed at the project's completion.

Instrument

The instrument used in this study was a paper and pencil survey (Appendix C). The survey included the following demographic information: (a) parent age; (b) parent education level; (c) age and gender of child; (d) level, length, and amount (days per week) of participation of child; and (e) information about other physical activities in which the child may be involved. In addition to demographic information, the survey requested parents to rate the importance of several attitudinal factors related to enrolling their child in gymnastics. The importance was measured on a five-point Likert scale, ranging from "very unimportant" to "very important". The majority of the motivation factors used in the survey were taken from the revised instrument used by McCullagh and

colleagues (1993). Others were developed from pilot study interviews with parents. The factors from McCullagh et al. (1993) came from the categories of skill/mastery, ego/competitiveness, fitness, team factors, fun/excitement, recognition, and affiliation.

In addition to the rated questions, the parents were asked to openly respond to two questions. These questions asked the parents to state the top five reasons they initially enrolled their child and the top five reasons they continue participating. Parents' perceptions about risks from participating in gymnastics were also assessed. These variables were taken from a review of the literature, pilot interviews with parents, and the investigator's knowledge of gymnastics. These factors were also assessed with a five-point Likert scale ranging from "do not consider a risk" to "very big risk".

Data Collection

The investigator collected data by visiting the gymnastics club every day the facility was open for a period of two weeks. This was done to assure that as many parents as possible were approached. The majority of children involved in the recreation program attend gymnastics once a week, therefore, each evening there was a different set of parents at the gym. The researcher asked for voluntary participation in answering a short questionnaire. The investigator was present and available to respond to questions at the gymnastics facility. In addition, surveys were sent home with children. In the letter that accompanied the survey, the parent was asked to return the survey to the gym. At the gym, the investigator collected the surveys or parents placed them in a box in the front office when the investigator was unavailable. Parents who completed the survey in

the gym were asked by the researcher not to complete a duplicate survey if their child brought one home.

Parents who had more than one child in the program were asked to fill out one questionnaire for each child. All parents were asked to assign themselves a four-digit identification code. Therefore, it was possible for the researcher to distinguish multiple surveys from one parent.

Data Reduction

Thirty-four of the 37 factors assessed with the Likert scale were grouped into eight categories for data analysis. The groups were the seven used by McCullagh and colleagues (1993) and an additional category, “medical”, made from medical-health factors added to the survey. These categories were used for the analysis of variance (ANOVA) between groups procedure. Two other independent variables were categorized for ANOVA analysis. Child’s age was divided based on Weiten's (1992) developmental psychology: a) early childhood (2-5 years); b) middle childhood (6-11 years); and c) adolescence (12-18 years). The other categorized variable was the parent’s age at the time their child was born. The age of the parent at the time the child was born was determined from his or her current age and the age of the child. Then, those who were 34 years and younger were labeled “younger parent” and those who were 35 years or older were labeled “older parent”.

Over 100 different responses were received on the two open-ended questions. Two experts in the field of physical activity assessed the responses and placed them into

categories. There was agreement on 89 of the 102 responses, resulting in an interrater reliability of 87%. A third rater made category suggestions based on the list of responses and indicated similar categories. This resulted in the responses being grouped into ten categories: 1) skill, motor development; 2) fitness, activity; 3) team, friends, social involvement; 4) fun, enjoyment, variety; 5) psychological, self-improvement factors; 6) competition, challenge; 7) aspects of the program or facility; 8) training, instruction, coaching; 9) family relationships; and 10) other, miscellaneous factors. The data for these questions was analyzed using these categories.

Data Analysis

The data was analyzed using the Statistical Package of the Social Sciences, Version 8.0 (1997). Descriptive statistics were run to identify rationale for gymnastics participation. Analysis of variance (ANOVA) was used to identify differences in rationale and expected benefits of gymnastics participation by competitive level, child age group, and parent age group. Demographic statistics were also run to describe who participates in a gymnastics program. The level of statistical significance was $p < 0.05$ for all tests.

Summary

A cross-sectional design was used to investigate the motivating factors of parents who sign their child up for private gymnastics programs. The sample of parents was

obtained from a private gymnastics club. The data included demographic information, motivation factors, and perceived risks. Descriptive statistics were used to characterize the sample. Analysis of variance was used to determine differences in groups based on competitive level, age of child, and age of parent.

CHAPTER 4

RESULTS

Approximately 250 surveys were distributed. One hundred and fifty-six (62%) were returned at least partially completed. Almost all of the surveys returned were those completed at the gym. Very few surveys were returned when they were sent home with the children.

Descriptive statistics

Descriptive characteristics of the study population are summarized in Tables 1, 2, and 3.

Table 1

Population Characteristics

| Variable | <u>N</u> | Range | <u>M</u> | <u>SD</u> |
|-------------------------------------|----------|-------|----------|-----------|
| Child's age (years) | 156 | 2-18 | 7.52 | 3.24 |
| Length of participation (months) | 155 | 1-126 | 20.03 | 23.19 |
| Times / week @ gymnastics | 156 | 1-6 | 1.58 | 1.08 |

| | | | | |
|-------------------------------|-----|-------|-------|------|
| Times / week @ other activity | 156 | 0-7 | 1.18 | 1.6 |
| Parent's age | 140 | 23-62 | 36.89 | 6.11 |

Table 2

Population Summary

| Variable (Total <u>N</u>) | <u>n</u> | % |
|-------------------------------|----------|------|
| Children's gender (156) | | |
| Female | 136 | 87.2 |
| Male | 20 | 12.8 |
| Parents' Gender (145) | | |
| Female | 122 | 84.1 |
| Male | 23 | 15.9 |
| Child's age by category (156) | | |
| Early childhood | 48 | 30.8 |
| Middle childhood | 87 | 55.8 |
| Adolescence | 21 | 13.5 |

Parent's age by category (139)

| | | |
|---------|-----|------|
| Younger | 122 | 87.8 |
| Older | 17 | 12.2 |

Gymnastics program (156)

| | | |
|--------------|-----|------|
| Recreational | 109 | 69.9 |
| Competitive | 47 | 30.1 |

Most involved parent (140)

| | | |
|-------|-----|------|
| Yes | 113 | 80.7 |
| No | 19 | 13.6 |
| Equal | 8 | 5.7 |

Level of education (142)

| | | |
|----------------------|----|------|
| Some high school | 1 | 0.7 |
| High school graduate | 19 | 13.4 |
| Some college | 51 | 35.9 |
| College graduate | 53 | 37.3 |
| Graduate degree | 18 | 12.7 |

High school athletic achievement (142)

| | | |
|-----|----|------|
| Yes | 57 | 40.1 |
| No | 85 | 59.9 |

Table 3

Activity Participation

| Variable (Total N) | <u>n</u> | % |
|-----------------------------------|----------|------|
| Times / week gymnastics (156) | | |
| 1 | 111 | 71.2 |
| 2 | 19 | 12.2 |
| 3 | 14 | 9.0 |
| 4 | 6 | 3.8 |
| 5 | 5 | 3.2 |
| 6 | 1 | 0.6 |
| Times / week other activity (156) | | |
| 0 | 85 | 54.5 |
| 1 | 14 | 9.0 |
| 2 | 26 | 16.7 |
| 3 | 18 | 11.5 |
| 4 | 7 | 4.5 |
| 5 | 3 | 1.9 |
| 6 | 0 | 0 |
| 7 | 3 | 1.9 |

Other activities (156)

| | | |
|-----|----|------|
| Yes | 71 | 45.5 |
|-----|----|------|

| | | |
|--------------------|----|--|
| One other activity | 35 | |
|--------------------|----|--|

| | | |
|----------------------|----|--|
| Two other activities | 28 | |
|----------------------|----|--|

| | | |
|------------------------|---|--|
| Three other activities | 8 | |
|------------------------|---|--|

| | | |
|----|----|------|
| No | 85 | 54.5 |
|----|----|------|

Children

Enrollment information from the club showed that at the beginning of data collection, 432 students were registered. This information also showed that 137 students (31.7%) were involved in competitive programs, and 292 (67.6%) were involved in recreational classes. The surveys returned were representative of the population in this respect. Forty-seven surveys (30.1%) were parents of children involved in a competitive program and 109 (69.9%) were parents of children involved in recreational classes. Overall, the majority (87.2%) of the participants were girls. The children ranged in age from 2 to 18, with the average age being 7.5 years. The largest age group for the children was middle childhood (55.8%), 30.8% of the population were in early childhood, and 13.5% were adolescents. The length of participation ranged from one month to 126 months. The average length of participation was 20 months. Most children (71.2%)

involved at this club participate in gymnastics one time a week. Answers of up to six times a week were given, resulting in a mean of 1.6 times a week for gymnastics participation.

Parents

The respondents ($n=156$) were 122 mothers or female guardians (109 mothers of daughters and 13 mothers of sons), 23 fathers or male guardians (18 fathers of daughters and 5 fathers of sons), and 11 unreported. The parents ranged in age from 23 to 62 years, with an average age of 36.9 years. The parents were also categorized by the age they were when the child was born. A parent that was 34 years or younger when the child was born was considered a “younger” parent, and those who were 35 years or older when their child was born was an “older” parent. Of the 139 parents for whom this information was available, 122 (87.8%) of them were considered younger, and 17 (12.2%) older. The majority of the parents (80.7%) who filled out the survey reported that they were the parent most involved with the child’s gymnastics participation, 19 (13.6%) said they were not the most involved parent, and eight (5.7%) said that both parents were equally involved. This population was highly education, as 85.9% of parents attended at least some college. Of the 142 parents that reported their educational status, one reported completing some high school, 19 (13.4%) classified themselves as high school graduates, 51 (35.9%) said they attended some college, 53 (37.3%) were college graduates, and 18 (12.7%) had a graduate degree.

Motivating Factors

Individual items

Parents were asked to rate the importance of thirty-seven different items, on a scale of one to five, in their decision to continue their child's gymnastics enrollment. The means for each item are presented and ranked in Table 4. Those that are in the top ten are factors of fun, skill, and exercise. Factors involving competitive elements were all ranked in the bottom ten.

Table 4

Means and Rank of Motivational Factors Associated with Supporting a Child's Participation in Organized Gymnastics

| Factor | <u>M</u> | Rank |
|----------------------------------|----------|------|
| To have a good time | 4.75 | 1 |
| To have fun | 4.69 | 2 |
| To get exercise | 4.62 | 3 |
| To improve skills | 4.61 | 4 |
| To learn new skills | 4.60 | 5 |
| To feel good when s/he does well | 4.51 | 6 |
| To do something s/he is good at | 4.37 | 7 |
| Help to be healthy | 4.36 | 8 |
| To be physically fit | 4.32 | 9 |

| | | |
|-----------------------------|------|----|
| To feel important | 4.28 | 10 |
| Motor development | 4.28 | 10 |
| To help learn discipline | 4.24 | 12 |
| To stay in shape | 4.22 | 13 |
| The coaches | 4.15 | 14 |
| The excitement | 4.07 | 15 |
| The team spirit | 4.04 | 16 |
| The challenge | 3.98 | 17 |
| The action | 3.93 | 18 |
| To meet new friends | 3.84 | 19 |
| To make better at sports | 3.83 | 20 |
| To get interested in sports | 3.74 | 21 |
| To be with friends | 3.67 | 22 |
| Physical therapy | 3.62 | 23 |
| To reduce risk for disease | 3.61 | 24 |
| The equipment | 3.42 | 25 |
| Being on a team | 3.27 | 26 |
| To gain recognition | 3.03 | 27 |
| To help control weight | 2.79 | 28 |
| To compete | 2.62 | 29 |
| To compete against others | 2.52 | 30 |
| Awards | 2.5 | 31 |

| | | |
|--------------------------------|------|----|
| To test ability against others | 2.48 | 32 |
| To help work out anger | 2.39 | 33 |
| Medical advice | 2.39 | 33 |
| To earn college scholarship | 2.28 | 35 |
| To win against others | 1.94 | 36 |
| The uniforms | 1.91 | 37 |

Motivator categories

To analyze the importance of certain categories of motivators, 34 of the 37 individual items were grouped into eight categories based on McCullagh et al.'s (1993) research. Three items did not fit into any of the categories based on the previous study. These were the following: to help learn discipline, to earn college scholarship, and to help work out anger. The mean scores for each category are presented in Table 5.

Table 5

Means and Rank of Motivational Factor Categories Associated with Supporting a Child's Participation in Organized Gymnastics

| Category | Rank | <u>M</u> |
|----------------------------------|------|----------|
| Fitness | 1 | 4.38 |
| To get exercise | | |
| To stay in shape | | |
| To be physically fit | | |
| Help to be healthy | | |
| Skill/mastery | 2 | 4.37 |
| To improve skills | | |
| To feel good when s/he does well | | |
| To learn new skills | | |
| To do something s/he is good at | | |
| Motor development | | |
| To make better at sports | | |
| Fun/excitement | 3 | 4.36 |
| To have a good time | | |
| To have fun | | |
| The action | | |
| The excitement | | |

| | | |
|----------------------------|---|------|
| Affiliation | 4 | 3.77 |
| To be with friends | | |
| To meet new friends | | |
| Team | 5 | 3.36 |
| Being on a team | | |
| The coaches | | |
| The team spirit | | |
| The uniforms | | |
| The equipment | | |
| Recognition | 6 | 3.28 |
| To feel important | | |
| To gain recognition | | |
| Award | | |
| Medical | 7 | 3.10 |
| Physical therapy | | |
| To reduce risk for disease | | |
| To help control weight | | |
| Medical advice | | |

| | | |
|--------------------------------|---|------|
| Competition | 8 | 2.64 |
| To compete against others | | |
| The challenge | | |
| To win against others | | |
| To earn a college scholarship | | |
| To compete | | |
| To test ability against others | | |

Open-ended questions

The parents were also asked two open-ended questions about their reasons for their child's gymnastics participation, one specifically about their initial interest and one about why they help their child continue. The questions had five spaces each for ranking what they felt were the most important factors. Several different responses were received and were grouped into ten categories. Factors of fun and enjoyment were most often ranked as the most important for a parent's reason for initially enrolling his or her child in gymnastics. Over 40% of parents ranked an answer related to enjoyment or desire as the number one reason that they began their child in gymnastics. Frequent answers seen from parents in this category were "my child wanted to try it" or "my child asked to do it". Skill/motor development and fitness categories were also prevalent answers on the ranking items. Fitness and skill development were the second and third most common

number one answers with 21.5% and 16%, respectively, of parents citing one of these reasons as the most important factor in their decision to enroll their child in gymnastics.

For the second ranking item, reasons for continuing participation, fun or enjoyment was also most frequently reported as the most important factor. Over 55% of parents said that enjoyment or their child's desire to participate influenced them to continue. Skill (16.0%) and fitness (11.8%) were other common responses for the most important reason for continuing participation.

When the number of mentions of a factor, regardless of ranking, were totaled, the most frequently cited answer for initial enrollment was fitness (154) followed by skill (132), fun (126), psychological benefits (103), and social responses (99). The remainder of the variables were cited less than 30 times. Competitive factors were listed only 18 times. When the frequency of an answer in the reasons for continuing a child's enrollment was assessed, fun is the most common answer followed by skill, fitness, and psychological factors. For this item, disregarding rank position, there were 138 fun responses, 127 skill responses, 125 fitness responses, 103 psychological responses, and 67 social responses. All other variables were mentioned 40 times or less. In both questions, variables relating to competition and family relationships were least frequently listed.

Perception of Risks

The mean scores for each individual risk factor are summarized in Table 6. The highest scores for any of the factors singly were close to 3.0, meaning a neutral feeling of

concern for the factor. The rest of the scores were between 1.8 and 2.4, signifying a lower level of concern about the risk of the factor.

Table 6

Means and Rank for Risks Associated with Organized Gymnastics Participation

| Factor | <u>M</u> | Rank |
|-----------------------------------|----------|------|
| Minor injury | 3.19 | 1 |
| Major injury | 3.05 | 2 |
| Emotional disappointment | 2.40 | 3 |
| Pushing too hard | 2.19 | 4 |
| Becoming overly competitive | 2.16 | 5 |
| Potential for sibling rivalry | 1.95 | 6 |
| Tendency towards eating disorders | 1.80 | 7 |

Activity Participation

Parents were also asked how often their children participated in other organized physical activities. The answers ranged from no days a week to seven; the mean number of times these children participated in an activity other than gymnastics was 1.2 days a

week. Seventy-one (45.5%) of the parents reported that their child was involved in at least one other organized physical activity session during the week. Of these 71, 14 (19.7%) were involved in another activity one time a week, 26 (36.6%) were involved two days a week, 18 (25.3%) were involved three days a week, seven (9.9%) were involved four days a week, three (4.2%) were involved five days a week, and three (4.2%) reported their child was in some activity all seven days in a week.

A little less than half of the children participated in an organized physical activity other than gymnastics at least one time a week. Some of the children participated in up to three additional activities. Of the 71, 35 (49.3%) participated in one activity outside of gymnastics, 28 (39.4%) participated in two other activities, and 8 (11.3%) had three activities beyond gymnastics. The percentage of children that participated in other activities was higher for children that participated in gymnastics one time a week (50%) than those who did gymnastics two or more times a week (32%). Those who are involved in competitive gymnastics and attend practice several times a week would not be as likely to be involved in other sports. As a group, 27% of those who did gymnastics three or more days a week participated in at least one other physical activity.

Fifteen different activities were reported as those that the children participated in other than gymnastics. The most common additional activity was softball, 26 (36.6%) of the 71 involved in other activities play softball. The other popular activities had similar numbers: 23 (32.4%) were involved in soccer; 20 (28.2%) played basketball; and 16 (22.5%) participate in dance.

Group Differences

Age of Parent

An analysis of variance (ANOVA) for the younger and older parents showed no significant differences on any of the eight motivator categories. All mean scores were comparable between the younger and the older parents and are presented in Table 7.

Table 7

ANOVA Results for Comparison of Motivational Factor Categories for “Younger” and “Older” Parents

| Factor Category | Group | <u>M</u> | <u>F</u> score | <u>p</u> value |
|-----------------|---------|----------|----------------|----------------|
| Fitness | Younger | 4.36 | .635 | .427 |
| | Older | 4.53 | | |
| Skill | Younger | 4.36 | .509 | .477 |
| | Older | 4.47 | | |
| Fun | Younger | 4.35 | .715 | .399 |
| | Older | 4.49 | | |
| Affiliation | Younger | 3.74 | .001 | .978 |
| | Older | 3.74 | | |

| | | | | |
|-------------|---------|------|-------|------|
| Team | Younger | 3.35 | .004 | .950 |
| | Older | 3.36 | | |
| Recognition | Younger | 3.28 | .016 | .900 |
| | Older | 3.25 | | |
| Medical | Younger | 3.04 | 1.880 | .173 |
| | Older | 3.37 | | |
| Competition | Younger | 2.63 | .263 | .609 |
| | Older | 2.75 | | |

Age of Child

The findings for all factors are shown in Table 8. For those factors that had a significant difference between age groups, the relationships are shown in Table 9. Four factors showed significant differences in importance between the parents of different aged gymnasts. They were "affiliation", "medical", "recognition", and "competition". For the affiliation factor, parents of two to five year olds had a mean importance score of 4.0, and the parents of six to eleven year olds had a mean score of 3.38. This difference indicates that making and being with friends is more important to the younger children's parents ($p < 0.05$). The rest of the factors showed an opposite pattern, such that medical, recognition, and competition factors were least important to the parents of children in the early childhood years (See Table 9). There was a significant difference in the importance of medical factors for the parents of middle (3.26) and early (2.84) childhood participants. The same pattern was seen for the recognition factor. Parents of middle

childhood athletes had a mean score of 3.45 and parents of early childhood gymnasts had a mean score of 2.98, indicating that being recognized and receiving awards was more important for those ages six to eleven, than for those under six. The importance of competition increased with age, resulting in a significant difference between early childhood (2.24) and both middle childhood (2.79) and adolescence (2.91).

Table 8

ANOVA Results for Comparison of All Motivational Factor Categories for Parents of Early Childhood, Middle Childhood, and Adolescent Gymnasts

| Factor Category | Group | <u>M</u> | <u>F</u> score | p value |
|-----------------|-------------|----------|----------------|---------|
| Fitness | Early | 4.17 | 2.947 | .056 |
| | Middle | 4.52 | | |
| | Adolescence | 4.25 | | |
| Skill | Early | 4.26 | 1.204 | .303 |
| | Middle | 4.44 | | |
| | Adolescence | 4.35 | | |
| Fun | Early | 4.38 | 1.003 | .369 |
| | Middle | 4.40 | | |
| | Adolescence | 4.17 | | |

| | | | | |
|--------------------|--------------------|-------------|--------------|-------------|
| Affiliation | Early | 4.00 | 3.380 | .037 |
| | Middle | 3.74 | | |
| | Adolescence | 3.37 | | |
| Team | Early | 3.19 | 2.010 | .138 |
| | Middle | 3.45 | | |
| | Adolescence | 3.20 | | |
| Recognition | Early | 2.98 | 5.051 | .008 |
| | Middle | 3.45 | | |
| | Adolescence | 3.20 | | |
| Medical | Early | 2.84 | 3.141 | .046 |
| | Middle | 3.26 | | |
| | Adolescence | 3.01 | | |
| Competition | Early | 2.24 | 7.110 | .001 |
| | Middle | 2.79 | | |
| | Adolescence | 2.91 | | |

-
- Bolded categories indicate a significant group difference at $p < 0.05$

Table 9

ANOVA Results for Comparison of Significant Motivational Factor Categories for
Parents of Early Childhood, Middle Childhood, and Adolescent Gymnasts

| Factor Category | Group | <u>M</u> | Significance |
|-----------------|-------------|----------|--------------|
| Affiliation | Early | 4.00 | .034 |
| | Adolescence | 3.37 | |
| Recognition | Early | 2.98 | .006 |
| | Middle | 3.45 | |
| Medical | Early | 2.84 | .045 |
| | Middle | 3.26 | |
| Competition | Early | 2.24 | .002 |
| | Middle | 2.79 | |
| | Early | 2.24 | .012 |
| | Adolescence | 2.91 | |

Type of Gymnastics Participation

There was a significant difference of the importance of two factors between the parents of competitive gymnasts and the parents of recreational gymnasts. The two factors were “competition” and “team factors”. The findings are given in Table 10. For

the competitive factor, parents of competitive gymnasts had a mean importance score of 3.06, and the parents of the recreational gymnastics had a mean score of 2.46. This difference indicates that competition is more important to the competitive children's parents ($p < 0.05$). The team factor scores showed a similar pattern. The mean score for the competitive parents (3.53) was significantly higher at $p < 0.05$ than that of the recreational parents (3.28). Thus, factors that were related to being part of a team were more important to the group of parents whose children were involved in competitive programs.

Table 10

ANOVA Results for Comparison of Motivational Factor Categories for Parents of Recreational (Rec) and Competitive (Comp) Gymnasts

| Factor Category | Group | <u>M</u> | <u>F</u> score | <u>p</u> value |
|-----------------|-------|----------|----------------|----------------|
| Fitness | Rec | 4.37 | .059 | .808 |
| | Comp | 4.41 | | |
| Skill | Rec | 4.37 | .020 | .886 |
| | Comp | 4.39 | | |
| Fun | Rec | 4.35 | .063 | .802 |
| | Comp | 4.38 | | |

| | | | | |
|--------------------|-------------|-------------|---------------|-------------|
| Affiliation | Rec | 3.83 | 1.463 | .228 |
| | Comp | 3.63 | | |
| Team | Rec | 3.28 | 4.115 | .044 |
| | Comp | 3.53 | | |
| Recognition | Rec | 3.20 | 2.987 | .086 |
| | Comp | 3.46 | | |
| Medical | Rec | 3.08 | .208 | .649 |
| | Comp | 3.15 | | |
| Competition | Rec | 2.46 | 16.361 | .000 |
| | Comp | 3.06 | | |

-
- Bolded categories indicate a significant group difference at $p < 0.05$

CHAPTER 5

DISCUSSION

The primary purpose of this study was to examine parents' motivation for having their children participate in an organized physical activity, specifically gymnastics. Parents of children attending a private gymnastics club participated in this study. Very little research has been done on parents' personal motivations for having their children involved in physical activities. Most of the research about motivation for children's physical activity behavior is about what motivates the child and the parents' perception of what motivates their child.

The most interesting findings of this study are that fitness, skill development, and fun were the motivators most frequently cited by parents. These three broad categories surfaced as the most important in all the various ways the data was examined. Another point of interest is that competition was ranked as the least important of the eight categories. These findings are consistent with several previous research studies examining the reasons youth participate in physical activities. For example, the same categories of fitness, skill, and fun stood out as the most important to recreational soccer players and their parents in McCullagh and colleagues' (1993) study.

Skill development and fun are categories that have been consistently high in importance for children of all ages (Gill, et al., 1983; Klint & Weiss, 1987; McCullagh, et al., 1993; Passer, 1982; Watkin & Youngen, 1986). However, in some cases it has been shown that improving health and fitness are not strong enough motives for the children themselves (Raviv & Geron, 1995). The findings in the current study show that this is one of the priorities for participation of the parents. The fact that parents are interested in participation for fitness benefits is similar to health, fitness, and appearance being popular adult motivators for their own exercise (Raviv & Geron, 1995). This demonstrates that children and parents may not always have the same reasons for the child's participation, as well as that parents, as adults, have different views on the reasons for physical activity.

Interestingly, the pattern of the eight motivational categories was the same for parents of competitive and recreational gymnasts. Again, the top three categories were very close in mean score, indicating that having fun, developing skills, and benefiting health and fitness are important aspects of gymnastics participation that are not dependent on competitive intentions. Even though the parents of competitive gymnasts give the competition factor a greater significance than the parents of recreational gymnasts, it is still the least important of the eight categories. The current study also supports McCullagh et al.'s (1993) findings. The fact that gymnastics performance usually is an individual endeavor and soccer is a team effort didn't appear to affect which factors motivated the participation. Therefore, we can speculate that parents are motivated by similar outcomes when enrolling their child in both types of organized activities.

The current study and others (e.g., McCullagh et al., 1993) suggest that competition is not an important factor in children's activity participation. However, Raviv and Geron (1995) state that competitive motivation is high and appears early in children, especially boys. The authors stated that competitive drive is very important for children ages six to fifteen years. Gill et al. (1983) also showed that competition was an important factor to boys. The current study may have different results based on the characteristics of the population. Proportionally, very few boys participate at the facility in which the research was conducted. Since previous research has shown the competitive factor to be particularly important to boys, this finding may have been absent due to the small number of boys in the study population. Additionally, this study shows competition to be related to age and program of participation. Competition was more important for children in the older age groups. In the study population there was only one boy in the adolescent age group. At the time that the study was conducted, the club did not have a competitive program for boys. Also, the studies that have shown an emphasis towards competition have focused on team sports. Since gymnastics tends to be individual performance, the importance of this factor may be viewed differently by the parents of gymnasts.

This study did show a logical difference between parents of competitive and recreational gymnasts on two factors. The parents of competitive gymnasts ranked the factors involving both competition and team factors as more important than did the parents of recreational gymnasts. As previously mentioned, this did not take away from

their view of the importance of the other factors, resulting in the same ranking pattern of importance for the eight categories (see Table 10)

In examination of the 37 individual items, the top ten factors were also those that were a part of the fun, skill, and fitness constructs. Interestingly, this was similar to results found by Klint and Weiss (1987) in a study about motives for gymnastics participation. In their study, children's top ten motives were related to competence, or skill, fitness, challenge, and fun. Those that were least important involved status or extrinsic rewards. Comparable results were reported by McCullagh et al. (1993), Watkin and Youngen (1986), and Gill et al. (1983). Watkin and Youngen (1986) found that adolescent females were highly motivated by skill development, and the importance of prestige and social status was low. However, they reported that adolescent males, even though they rated prestige and social status of little importance, were motivated by the desire to win. Gill et al.'s (1983) study showed again that improving skills was the number one motivator for boys and girls. Both factors of improving skills and learning new skills were important to the children involved in a variety of sports. Similar to Gill et al.'s (1983) results, in the current study, both of these factors were in the top five. Gill et al.'s (1983) study also demonstrated a gender difference. The girls ranked fun, friends, and fitness factors higher, whereas, boys were more interested in the challenge and competition.

Within this survey, consistency was seen in the ranking of the individual factors. Several times, factors that were similar received comparable mean scores. See Table 4 for examples: "to have a good time" and "to have fun" were ranked 1 and 2; "to improve

skills" and "to learn new skills" were ranked together and only 0.01 different in mean score; "to make better at sports" and "to get interested in sports" were ranked one after the other; and several competitive factors ("to compete", "to compete against others", "awards", "to test ability against others") were also clustered in the ranking.

Another aspect of the data yields similar results. Fun was the most frequent response for the most important reason parents initially enrolled their child in gymnastics. An even stronger response for fun and enjoyment was seen when parents were asked what was prompted them to continue in gymnastics. It was very common to find a response that said that the parent helped their child to continue in gymnastics because the child "loved it", the child had desire or interest to continue, or the child enjoyed attending. It was an encouraging finding that these fun and enjoyment responses focused on how the child felt about his or her participation. Fun, fitness, and skill development were all consistently high across the ranking items. Fitness included several items such that addressed the desire to get exercise and activity, gain strength, and improve flexibility. This sample is knowledgeable about the benefits of physical activity. Physical benefits were often described as a reason the parent got their child involved in gymnastics. This shows that parents are aware of what physical activity can do for the body, and that these were changes they expected from gymnastics involvement.

Psychological variables were also frequent responses to the open-ended questions. This category included responses such as having a positive involvement, sense of achievement, and to learn skills such as discipline, perseverance, persistence, goal setting, and attention to details. The most common answers included gaining and maintaining

self-confidence and self-esteem and learning discipline. Social involvement, related to team and friendship factors, was also an area of importance to the parents. Common answers in this category were "to learn teamwork", "to be with friends" and "to meet new friends". Answers that broadly covered the category were also give such as "to learn social skills". Although answers promoting physical factors were more common, the importance of mental health and social skills was apparent. Parents expressed an interest in having their children involved with others their age and participating in a common activity.

Implications

The results of this study are important to those in the gymnastics arena as well as other sports. Passer (1982) noted that this type of information is important to youth sport personnel who are interested in structuring the athletic environment to provide participants with a maximally rewarding experience. Fitness, skill development, and fun are very important to parents, and they expect these outcomes from their child's participation. Coaches and facility owners can use this information to attract and keep participants. As club owners and gymnastics organizations market their programs and the reasons why one should get their child involved, they should emphasize the fitness benefits, as well as the skill development that occurs in a gymnastics class. Clubs and organizations involved with other sports can also use this information. Parents want their children to have fun and learn skills, and since these factors are also important to the children, as previous research has shown, programs should focus on these objectives.

Future Research

There is still a lack of research in the literature regarding parents' motivation for facilitating participation in organized activities for their children. This research can be further developed by expanding to other populations. Other sports, particularly studies that would enable the comparison of motivators for participation in team versus individual sports, would add to the understanding of parents' motivation. Possible gender differences, both for the parent and the child, need to be addressed. This study primarily received information from the mothers of female gymnasts. As seen in some of the literature, there are gender differences for the motivation of the children, and it is possible that similar differences exist in the parents. Research should focus on the motivators of parents of male athletes. Additionally, this research would benefit from a facility that had competitive opportunities for both boys and girls in the same sport, as to enable a gender comparison.

Further research should also address the differences in free response ranking answers for the parents of competitive and recreational athletes. In this study, the parents were allowed to answer by Likert scale-type answer on several variables and were enabled to include all things that they find important. However, if they were asked only to rank the five most important variables, a more differences might appear between the parents of competitive and recreational athletes.

Another area of future research would be to examine parents' motivations on a longitudinal basis. It may be that parents' reasons for having their children involved in gymnastics or other sports activities change over time. Also, once parents have invested an amount of time and money into an activity, they may be driven to continue by different factors. The level a gymnast succeeds to may also influence parents' motivation. An increase in the competitive factor could be hypothesized for those advancing through a competitive structure.

Conclusion

In agreement with previous research, the findings of this study show parents are motivated mostly by intrinsic, or personally rewarding, reasons for their children. The motivators for parents are similar to those that have been reported for children's motivation with less competition and more fitness than some research has suggested. Overall, several different aspects of examining what parents want for their child from gymnastics participation showed that they wanted their child to benefit from the experience both in a health aspect and from learning sport-specific skills. As much as they want their children to learn skills and be healthy from participating in these activities, they are looking for their child to have fun doing so.

APPENDIX A
APPROVAL LETTER



Frank M. Kudlac - Director



268 South I-35
Denton, Texas 76205

Jennie Wald
2100 Spencer Road #5210
Denton, Texas 76205

Date: February 17, 1999

Dear Jennie,

Thank you for taking the time to discuss your study "Parents' Motivation for Registering their Child in Gymnastics" with me. I have agreed to allow you to conduct your research at Achievers Gymnastics Center and welcome you into our facility to gather your research data. You have permission to ask parents in the gym to answer a short survey and to send surveys home with those children whose parents do not come into the gym. It is understood that participation is voluntary and that participants are free to drop out of the study without prejudice. Let me know if I can be of any further assistance and good luck.

Sincerely,

A handwritten signature in cursive script that reads "Johnna Kudlac".

Johnna Kudlac
Owner / Manager
Achievers Gymnastics Center

Gym Phone
940-484-4900



Gym Fax
940-484-1305

APPENDIX B
INFORMED CONSENT

Dear Study Participant:

I am a Master's degree student at the University of North Texas, and I am conducting a study designed to investigate the motivation of parents have for enrolling their child in gymnastics programs. There are no identified health risks to you or your child for your participation in this study. Participation is voluntary and you may refuse to participate or withdraw from this study at any time without intimidation or prejudice. Please discuss any questions that you may have with myself or my faculty advisor. I may be contacted at (940) 565-3057. My advisor, Dr. Tim Bungum, may be reached at (940) 565-2651.

Participation in this study involves the completion of a written questionnaire. All data from this study will be treated confidentially. Your name will not be identified in any way with this research.

Your signature below indicates that you have read the information, have been given the necessary information, and have been given opportunity to ask questions which have been answered to your satisfaction. Information about the results of this study will be provided to you at your request.

THANK YOU.
Jennie Wald
Graduate Student
University of North Texas

Signature _____

THIS STUDY HAS BEEN REVIEWED BY THE UNIVERSITY OF NORTH TEXAS
COMMITTEE FOR THE PROTECTION OF HUMAN SUBJECTS (PHONE: (940)
565-3940).

Dear Parent:

I am a Master's degree student at the University of North Texas and I have been coaching at Achievers for the past year. One of my requirements for my degree is a thesis research project. I am conducting a study designed to investigate the motivation parents have for enrolling their child in gymnastics programs. Your participation in this study would be greatly appreciated. There are no identified health risks to you or your child for your participation in this study. Participation is voluntary and you may refuse to participate or withdraw from this study at any time. Please discuss any questions that you may have with myself or my faculty advisor. I may be contacted at (940) 565-3057. My advisor, Dr. Tim Bungum, may be reached at (940) 565-2651.

Participation in this study involves the completion of a written questionnaire. If possible, the parent most involved with your child's gymnastics participation should complete this survey. All data from this study will be treated confidentially. Your name will not be identified in any way with this research.

Your signature below indicates that you have read the information, have been given the necessary information, and have been given opportunity to ask questions which have been answered to your satisfaction. Information about the results of this study will be provided to you at your request.

If I am not available to take your survey when you return it to the gym, please put it in the boxes in the front office. To prevent taking away from class time, please try to avoid having your child bring the survey to his or her instructor.

THANK YOU.
Jennie Wald
Graduate Student
University of North Texas

Signature _____

THIS STUDY HAS BEEN REVIEWED BY THE UNIVERSITY OF NORTH TEXAS
COMMITTEE FOR THE PROTECTION OF HUMAN SUBJECTS (PHONE: (940)
565-3940).

APPENDIX C
QUESTIONNAIRE

1. Last 4 digits of parent social security number _____
(or you may use any 4 digit code, please use the same code for all your children)
2. How many of your children are enrolled at Achievers Gymnastics? _____
If more than one, please fill out a questionnaire for each child.
3. Information for Child # 1 2 3 4
4. Female _____ Male _____
5. Age _____
6. Length of organized gymnastics participation (months) _____
7. What Achievers program is your child in?
 Mom & Me _____
 Preschool or kindergym (ages 3-6) _____
 Recreational classes (ages 7 & up) _____
 Cheerleading classes (tumble and/or cheer) _____
 Competitive team (Levels 4-9) _____
 Competitive preparation (Achievements, Hopes, Stars, Pre-team) _____
8. How many times a week does your child participate in organized gymnastics? _____
9. Is your child involved in other organized physical activities? _____
 a) If yes, what sports or programs? _____
 b) How many times a week does s/he go to other activities? _____

At this time, how important is each of these factors in your decision to maintain your child's enrollment in gymnastics?

| | 1 | 2 | 3 | 4 | 5 |
|------------------------------------|------------------|---|-------------------------------------|---|----------------|
| | Very unimportant | | Neither important or unimportant | | Very important |
| 10. To have a good time | | | 1 2 3 4 5 | | |
| 11. Being on a team | | | 1 2 3 4 5 | | |
| 12. To be with friends | | | 1 2 3 4 5 | | |
| 13. The coaches | | | 1 2 3 4 5 | | |
| 14. To compete | | | 1 2 3 4 5 | | |
| 15. To test ability against others | | | 1 2 3 4 5 | | |
| 16. Awards | | | 1 2 3 4 5 | | |

| | | | | | |
|---|---|---|---|---|---|
| 17. Physical therapy | 1 | 2 | 3 | 4 | 5 |
| 18. To have fun | 1 | 2 | 3 | 4 | 5 |
| 19. To get exercise | 1 | 2 | 3 | 4 | 5 |
| 20. To improve skills | 1 | 2 | 3 | 4 | 5 |
| 21. The team spirit | 1 | 2 | 3 | 4 | 5 |
| 22. To feel important | 1 | 2 | 3 | 4 | 5 |
| 23. To reduce risk for disease | 1 | 2 | 3 | 4 | 5 |
| 24. To compete against others | 1 | 2 | 3 | 4 | 5 |
| 25. The uniforms | 1 | 2 | 3 | 4 | 5 |
| 26. The challenge | 1 | 2 | 3 | 4 | 5 |
| 27. To stay in shape | 1 | 2 | 3 | 4 | 5 |
| 28. To be physically fit | 1 | 2 | 3 | 4 | 5 |
| 29. The action | 1 | 2 | 3 | 4 | 5 |
| 30. To get interested in sports | 1 | 2 | 3 | 4 | 5 |
| 31. To gain recognition | 1 | 2 | 3 | 4 | 5 |
| 32. The equipment | 1 | 2 | 3 | 4 | 5 |
| 33. To help work out anger | 1 | 2 | 3 | 4 | 5 |
| 34. To feel good when s/he does well | 1 | 2 | 3 | 4 | 5 |
| 35. To learn new skills | 1 | 2 | 3 | 4 | 5 |
| 36. To do something s/he is good at | 1 | 2 | 3 | 4 | 5 |
| 37. The excitement | 1 | 2 | 3 | 4 | 5 |
| 38. To meet new friends | 1 | 2 | 3 | 4 | 5 |
| 39. To help control weight | 1 | 2 | 3 | 4 | 5 |
| 40. To win against others | 1 | 2 | 3 | 4 | 5 |
| 41. Motor development | 1 | 2 | 3 | 4 | 5 |
| 42. Help to be healthy | 1 | 2 | 3 | 4 | 5 |
| 43. To make better at sports | 1 | 2 | 3 | 4 | 5 |
| 44. To help learn discipline | 1 | 2 | 3 | 4 | 5 |
| 45. Medical advice | 1 | 2 | 3 | 4 | 5 |
| 46. To earn college scholarship | 1 | 2 | 3 | 4 | 5 |

47. Please rank the five most important factors to you that initially encouraged you to enroll your child in gymnastics, with 1 being the highest.

1

2

3

4

5

48. Please rank the five most important factors that encourage you to continue your child's participation in gymnastics, with 1 being the highest.

1

2

3

4

5

To what extent do you consider each of these factors as a risk to your child?

| 1 Do not consider a risk | 2 | 3 May or may not be a risk | 4 | 5 Very big risk | |
|---|---|----------------------------------|---|-----------------------|-----|
| 49. Minor injury (muscle aches, sprains) | | 1 | 2 | 3 | 4 5 |
| 50. Major injury (broken bone) | | 1 | 2 | 3 | 4 5 |
| 51. Tendency towards eating disorders | | 1 | 2 | 3 | 4 5 |
| 52. Emotional disappointment | | 1 | 2 | 3 | 4 5 |
| 53. Becoming overly competitive | | 1 | 2 | 3 | 4 5 |
| 54. Pushing too hard | | 1 | 2 | 3 | 4 5 |
| 55. Potential for sibling rivalry | | 1 | 2 | 3 | 4 5 |

PARENT INFORMATION

56. Are you the: Mother _____ Father _____
57. Do you consider yourself the most involved parent (i.e. decision maker) in your child's gymnastics participation? YES NO
58. Age _____
59. Level of education
- | | |
|----------------------------|------------------------|
| Some high school _____ | College graduate _____ |
| High school graduate _____ | Graduate degree _____ |
| Some college _____ | |
60. Did you earn an athletic letter or other athletic achievement in high school?
- YES NO

REFERENCES

- Aaron, D.J., Kriska, A.M., Dearwater, S.R., Anderson, R.L., Olsen, T.L., Cauley, J.A., & LaPorte, R.E. (1993). The epidemiology of leisure physical activity in an adolescent population. Medicine and Science in Sports and Exercise, 25, 847-856.
- Anderssen, N., & Wold, B. (1992). Parental and peer influences on leisure-time physical activity in young adolescents. Research Quarterly for Exercise and Sport, 63, 341-348.
- Atsalakis, M., & Sleaf, M. (1996). Registration of children in a physical activity program: An application of the theory of planned behavior. Pediatric Exercise Science, 8, 166-176.
- Brustad, R.J. (1993). Who will go out and play? Parental and psychological influences on children's attraction to physical activity. Pediatric Exercise Science, 5, 210-223.
- Brustad, R.J. (1996). Attraction to physical activity in urban schoolchildren: Parental socialization and gender influences. Research Quarterly for Exercise and Sport, 67, 316-323.
- Carreiro da Costa, F., Dinis, J., Carvalho, L.M., & Onofre, M. (1995). School physical education purposes: The parents' view. In R. Lidor, E. Eldar, & I. Harari (Eds.), Proceedings of the Windows to the Future: Bridging the Gaps between Disciplines, Curriculum and Instruction Congress, Part 1 (pp.181-187). The Wingate Institute: Israel.
- Dempsey, J.M., Kimiecik, J.C., & Horn, T.S. (1993). Parental influence on children's moderate to vigorous physical activity participation: An expectancy-value approach. Pediatric Exercise Science, 5, 151-167.
- Freedson, P.S., & Evenson, S. (1991). Familial aggregation in physical activity. Research Quarterly for Exercise and Sport, 62, 384-389.
- Hovell, M.F., Kolody, B., & Sallis, J.F. (1996). Parent support, physical activity, and correlates of adiposity in nine year olds: An exploratory study. Journal of Health Education, 27, 126-129.

Klint, K.A., & Weiss, M.R. (1987). Perceived competence and motives for participating in youth sports: A test of Harter's Competence Motivation Theory. Journal of Sport Psychology, 9, 55-65.

McCullagh, P., Matzkanin, K.T., Shaw, S.D., & Maldonado, M. (1993). Motivation for participation in physical activity: A comparison of parent-child perceived competencies and participation motives. Pediatric Exercise Science, 5, 224-233.

Mota, J., & Queiros, P. (1996). Children's behavior. Physical activity regarding parents' perception vs. children's activity. International Review for Sociology of Sport, 31, 173-179.

Passer, M.W. (1982). Children in sport: Participation motives and psychological stress. Quest, 33, 231-244.

Pate, R.R., Long, B.L., & Heath, G. (1994). Descriptive epidemiology of physical activity in adolescents. Pediatric Exercise Science, 6, 434-447.

Raviv, S., & Geron, E. (1995). Competitive sport in the leisure time of children and youth. In R. Lidor, E. Eldar, & I. Harari(Eds.), Proceedings of the Windows to the Future: Bridging the Gaps between Disciplines, Curriculum and Instruction Congress, Part 2 (pp.363-376). The Wingate Institute: Israel.

Sallis, J.F. (1994). Determinants of physical activity behavior in children. In R.R. Pate & R.C. Hohn (Eds.), Health and Fitness Through Physical Education (pp.31-43). Champaign, IL: Human Kinetics.

Saunders, R.P., Pate, R.R., Felton, G., Dowda, M., Weinrich, M.C., Ward, D.S., Parsons, M.A., & Baranowski, T. (1997). Development of questionnaires to measure psychosocial influences on children's physical activity. Preventive Medicine, 26, 241-247.

Stucky-Ropp, R.C., & DiLorenzo, T.M. (1993). Determinants of exercise in children. Preventive Medicine, 22, 880-889.

Trost, S.G., Pate, R.R., Saunders, R., Ward, D.S., Dowda, M., & Felton, G. (1997). A prospective study of the determinants of physical activity in rural fifth-grade children. Preventive Medicine, 26, 257-263.

Watkin, B. & Youngen, L. (1986). Cross-national comparisons of motivation for participation in physical activity of Australian and American adolescents. In E.F. Broom, R.Clumpner, B. Pendleton, & C.A. Pooley (Eds.), Comparative Physical Education and Sport, Volume 5 (pp. 267-275). Champaign, IL: Human Kinetics.

Weiss, M.R., & Hayashi, C.T. (1995). All in the family: Parent-child influences in competitive youth gymnastics. Pediatric Exercise Science, 7, 36-48.

Weiten, W. (1992). Human development across the lifespan. Psychology: Themes and Variations (2nd ed., pp. 376-421). Pacific Grove, CA: Brooks/Cole Publishing Company.